

PART 12. PUBLICATIONS, PRESENTATIONS and ARTICLES

1. PUBLICATIONS

1.1 Mission

1. **Mandl, D.**, P. Cruz, S. Frye and J. Howard, "A NASA/USGS Collaboration to Transform Earth Observing-1 Into a Commercially Viable Mission to Maximize Technology Infusion," SpaceOps 2002, Houston, TX, October 9-12, 2002.
2. **Mandl, D.** and J. Howard, "How EO-1 Used Operations to Cost-Effectively Mitigate Risk," IEEE Aerospace Conference 2001, Big Sky, MT.

1.2 Sensor Web/Test-Bed Initiatives

1. **Chein, S.**, S. T. Debban, C. Yen, R. Sherwood, R. Castano, B. Cichy, A. G. Davies, M. Burl, A. Fukunaga, R. Greeley, T. Doggett, K. Williams, V. Baker, and J. Dohm, "Revolutionary Deep Space Science Missions Enabled by Onboard Autonomy," Proceedings of I-SAIRAS 2003, 7th International Symposium on Artificial Intelligence, Robotics and Automation in Space, Nara, Japan, May 2003.
2. **Chien, S.**, A. G. Davies, V. Baker, B. Castano, B. Cichy, T. Doggett, J. M. Dohm, R. Greeley, R. Sherwood and K. Williams (2003), "Autonomous Sciencecraft Experiment (ASE) Test Operations in 2003," Lunar. Plan. Sci. Conf. XXXIV, abstract #1458, on CD-ROM.
3. **Chien, S.**, R. Sherwood, D. Tran, R. Castano, B. Cichy, A. Davies, G. Rabideau, N. Tang, M. Burl, D. Mandl, S. Frye, J. Hengemihle, J. D'Agostino, R. Bote, B. Trout, S. Shulman, S. Ungar, J. Van Gaasbeck, D. Boyer, M. Griffin, H. Burke, R. Greeley, T. Doggett, K. Williams, V. Baker, J. Dohm, "Autonomous Science on the EO-1 Mission," International Symposium on Artificial Intelligence, Robotics, and Automation in Space (i-SAIRAS 2003). Nara, Japan, May 2003.
4. **Davies, A.G.**, S. Chien, R. Wright, P. Cervelli, L. Flynn, V. Baker, R. Castano, B. Cichy, J. Dohm, T. Doggett, R. Greeley, K. Williams, S. Frye, J. Jones, and the ASE and EO-1 Mission Teams (2003), "Streamlining Spacecraft Observation Response to Volcanic Activity Detection with a Ground and Space-based Sensor Web System." Abstract, AGU Fall Meeting 2003, San Francisco, CA.
5. **Davis, A.G.**, V. Baker, R. Castano, S. Chien, B. Cichy, T. Doggett, J. Dohm, R. Greeley, G. Rabideau, R. Sherwood, K.K. Williams, and the ASE Team (2003), "Autonomous Volcanic Activity Detection with ASE on EO-1 Hyperion: Applications for Planetary Missions," Abstract, DPS, Monterey, CA.
6. **Doggett, T.**, A. Davies, R. Castano, V. Baker, J. Dohm, R. Greeley, K. Williams, S. Chien, R. Sherwood, "Autonomous Science Analysis with the New Millennium Program-Autonomous Sciencecraft Experiment," EOS Trans. AGU, 83(47), 2002 Fall Meeting Suppl., Abstract B61A-0712.
7. **Dohm, J.D.**, S. Chien, G. Brakenridge, V. Baker, R. Castano, B. Caquard, B. Cichy, A. Davies, T. Doggett, R. Greeley, S. Nghiem, R. Sherwood, K. Williams, D. Mandl, S. Ungar, S. Frye, J. Jones, S. Grosvenor and the ASE and EO-1 Operations Teams (2003) "Ground and Space-based Sensor Web System: Streamlining Spacecraft Observation Response to Flood Detection," abstract, American Geophysics. Union Fall Meeting, San Francisco, 6-12 Dec 2003.
8. **Koratkar, A.**, J. Jones, J. Jung, and S. Grosvenor, "Science Goal Driven Automation for NASA Missions: The Science Goal Monitor," AAAI Spring Symposium on Interaction Between Humans and Autonomous Systems Over Extended Operation, 2004.
9. **Mandl, D.**, "Experimenting with Sensor Webs Using Earth Observing-1," IEEE Aerospace Conference 2004, Big Sky, MT.
10. **Mandl, D.**, Michael Griffin, Hsiao-hua Burke and Jerry Miller. "Validation of On-board Cloud Cover Assessment Using EO-1," ESTO Technology Conference, University of Maryland, College Park, MD, June 2003.

11. **Sherwood R.**, S Chien, D. Tran, B. Cichy, R. Castano, A. Davies, G. Rabideau, "Next Generation Autonomous Operations on a Current Generation Satellite," 5th International Symposium on Reducing the Cost of Spacecraft Ground Systems and Operations (RCSGSO 2003). Pasadena, CA. July 2003.
12. **Sherwood, R.**, S. Chien, D. Tran, R. Castano, B. Cichy, A. Davies, G. Rabideau, N. Tang, M. Burl, D. Mandl, S. Frye, J. Hengemihle, J. D'Agostino, R. Bote, B. Trout, S. Shulman, S. Ungar, J. Van Gaasbeck, D. Boyer, M. Griffin, H. Burke, R. Greeley, T. Doggett, K. Williams, V. Baker, J. Dohm, "Software Demonstration: Autonomous Science Analysis, Planning, and Execution on the EO-1 Mission," Proceedings of the 13th International Conference on Automated Planning and Scheduling (ICAPS), Trento, Italy, June 2003.

1.3 Spacecraft Bus

1. **Blackman, K.**, et al, "Getting the Most Out of Four Thrusters on the Earth Observing-1 Spacecraft," Flight Mechanics Symposium, NASA/GSFC, June 19-21, 2001.
2. **Blackman, K.**, et al, "On-Orbit Pointing Performance for the New Millennium Earth Observing-1 Spacecraft," Flight Mechanics Symposium, NASA/GSFC, June 19-21, 2001
3. **Cully, M. J.**, C. Gay and J. Thurber, "Small Spacecraft Bus Development in the New Millennium," 12th AIAA/USU Conference on Small Satellites, September 2, 1998.
4. **Perry, M. E.**, P. Alea, M. J. Cully, M. McCullough, P. Sanneman, N. Teti and B. Zink, "Earth Observing-1 Spacecraft Bus," 15th Annual/USU Conference on Small Satellites, SSC01-V-6, 2001.
5. **Quinn, D.**, et al, "GPS Systems on Orbit: The Integration, Testing, and Flight of the EO-1 GPS," Flight Mechanics Symposium, NASA/GSFC, June 19-21, 2001
6. **Sanneman, P.**, "Fault Detection Design and Experience for NMP Earth Observing-1," AAS 02-014.
7. **Sanneman, P.**, et al, "New Millennium Earth Orbiter-1 Mission: Attitude Control Requirements & Capabilities," AAS Guidance & Control Conference, Feb. 1998.
8. **Speer, D.**, et al, "Attitude Determination and Control for the New Millennium EO-1 Spacecraft," 1998 IEEE Aerospace Conference Proceedings, March 1998.

1.4 Technology

1.4.1 Advanced Land Imager (ALI)

1. **Bicknell, W. E.**, C. J. Digenis, S. E. Forman and D. E. Lencioni, "EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 80-88, July 1999.
2. **Digenis, C. J.**, D. E. Lencioni and W. E. Bicknell, "New Millennium EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems III, San Diego, California, Proc. SPIE, Vol. 3439, pp. 49-55, July 1998.
3. **Evans, J.** and H. Viggh, "Radiometric Calibration Pipeline for the EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 153-161, July 1999.
4. **Evans, J. B.**, C. J. Digenis, M. D. Gibbs, D.R. Hearn, D.E. Lencioni, J.A. Mendenhall and R.D. Welsh, "On-Orbit Test Results from the EO-1 Advanced Land Imager", SPIE Conference, San Diego, July 2001.
5. **Hearn, D. R.**, "Earth Observing-1 Advanced Land Imager: Detector Line-of-Sight Calibration," MIT/LL Project Report EO-1-4, 29 December 2000.

6. **Hearn, D. R.**, "Earth Observing-1 Advanced Land Imager: Imaging Performance On-Orbit," MIT/LL Technical Report EO-1-12, 31 December 202.
7. **Hearn, D. R.**, "Characterization of instrument spectral resolution by the spectral modulation transfer function," Proc. SPIE, Vol. 3439, pp. 400-407, July 1998.
8. **Hearn, D. R.**, "EO-1 Advanced Land Imager Modulation Transfer Functions," MIT Lincoln Laboratory Technical Report 1061, 22 March 2000.
9. **Hearn, D. R.**, "Vacuum Window Optical Power Induced by Temperature Gradients", SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 297-308, July 1999.
10. **Hearn, D. R.**, C. J. Digenis, D. E. Lencioni, J. A. Mendenhall, J. B. Evans and R. D. Welsh, "EO-1 Advanced Land Imager Overview and Spatial Performance ", IGARSS 2001, Sydney, 9 July 2001.
11. **Hearn, D. R.**, J. A. Mendenhall and B. C. Willard, "Spatial calibration of the EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 97-108, July 1999.
12. **Lencioni, D. E.** and D. R. Hearn, "New Millennium EO-1 Advanced Land Imager," International Symposium on Spectral Sensing Research, San Diego, Dec. 13-19, 1997.
13. **Lencioni, D. E.**, C. J. Digenis, W. E. Bicknell, D. R. Hearn and J. A. Mendenhall, "Design and Performance of the EO-1 Advanced Land Imager," SPIE Conference on Sensors, Systems, and Next Generation Satellites III, Florence, Italy, 20 September 1999.
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15. **Lencioni, D. E.**, J. A. Mendenhall , D. R. Hearn and C. J. Digenis, "On-Orbit Calibration, Performance, and Characterization Results from the EO-1 Advanced Land Imager", SPIE 2002, 7-11 July.
16. **Lencioni, D. E.**, J.A. Mendenhall and D. P.Ryan-Howard, "Solar Calibration of the EO-1 Advanced Land Imager," IGARSS 2001, Sydney, 9 July 2001.
17. **Mendenhall J. A.** and D. E. Lencioni, "EO-1 Advanced Land Imager On-Orbit Radiometric Calibration", IGARSS 2002, Toronto, 24-28 June 2002.
18. **Mendenhall, J. A.** (Editor), "Earth Observing-1 Advanced Land Imager: Instrument and Flight Operations Overview," MIT/LL Project Report EO-1-1, 23 June 2000.
19. **Mendenhall, J. A.** and D. E. Lencioni, "Earth Observing-1 Advanced Land Imager Flight Performance Assessment: Absolute Radiometry and Stability During the First Year," MIT/LL Project Report EO-1-10, 31 May 2002.
20. **Mendenhall, J. A.** and M.D. Gibbs, "Earth Observing-1 Advanced Land Imager Flight Performance Assessment: Noise and Dark Current Stability During the First Year On Orbit," MIT/LL Project Report EO-1-11, 19 August 2002.
21. **Mendenhall, J. A.** and D. E. Lencioni, "EO-1 Advanced Land Imager Stray Light Analysis and Impact on Flight Data", IGARSS 2002, Toronto, 24-28 June 2002.
22. **Mendenhall, J. A.** and D. P. Ryan-Howard, "Earth Observing-1 Advanced Land Imager: Spectral Response Calibration," MIT/LL Project Report EO-1-2, 20 September 2000.
23. **Mendenhall, J. A.** and M. D. Gibbs, "Earth Observing-1 Advanced Land Imager Flight Performance Assessment: Noise and Dark Current Trending for the First 60 Days," MIT/LL Project Report EO-1-7, 1 June 2001.
24. **Mendenhall, J. A.**, "Earth Observing-1 Advanced Land Imager Flight Performance Assessment: Investigating Dark Current Stability Over One-half Orbit Period During the First 60 Days," MIT/LL Project Report EO-1-6, 1 July 2001.
25. **Mendenhall, J. A.**, "Earth Observing-1 Advanced Land Imager: Dark Current and Noise Characterization and Anomalous Detectors," MIT/LL Project Report EO-1-5, 7 May 2001.

26. **Mendenhall, J. A.**, and A. C. Parker, "Spectral calibration of the EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 109-116, July 1999.
27. **Mendenhall, J. A.**, D. E. Lencioni and A. C. Parker, "Radiometric calibration of the EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 117-131, July 1999.
28. **Mendenhall, J. A.**, D. E. Lencioni and J. B. Evans, "Earth Observing-1 Advanced Land Imager: Radiometric Response Calibration," MIT/LL Project Report EO-1-3, 29 November 2000.
29. **Mendenhall, J. A.**, D. E. Lencioni, D. R. Hearn and A. C. Parker, "EO-1 Advanced Land Imager preflight calibration," Proc. SPIE, Vol. 3439, pp. 390-399, July 1998.
30. **Mendenhall, J. A.**, D. E. Lencioni, D. R. Hearn and A. C. Parker, "EO-1 Advanced Land Imager in-flight calibration," Proc. SPIE, Vol. 3439, pp. 416-422, July 1998.
31. **Mendenhall, J. A.**, D. R. Hearn and D. E. Lencioni, "Comparison of Earth Observing-1 Advanced Land Imager Performance with the Landsat Data Continuity Mission Specification", MIT/LL Project Report EO-1-8, 4 June 2002.
32. **Mendenhall, J. A.**, D. R. Hearn, J. B. Evans, D. E. Lencioni, C. J. Digenis and R. D. Welsh, "Initial Flight Test Results from the EO-1 Advanced Land Imager: Radiometric Performance", IGARSS 2001, Sydney, 9 July 2001.
33. **Mendenhall, J. A.**, et al, "EO-1 Advanced Land Imager Technology Validation Report", MIT/LL Project Report EO-1-9, 4 June 2002.
34. **Unknown**, "EO-1 Stray Light Analysis Report No. 3," Lambda Research Corp., May 1998.
35. **Viggh, H.**, J. A. Mendenhall, R. Sayer, J. S. Stuart and M. Gibbs, "An Automated Ground Data Acquisition and Processing System for Calibration and Performance Assessment of the EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 132-140, July 1999.
36. **Viggh, H.**, J. S. Stuart, R. Sayer, J. Evans, J. A. Mendenhall and M. Gibbs, "Performance Assessment Software for the EO-1 Advanced Land Imager," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 141-152, July 1999.
37. **Wang, D.**, "EO-1 Technology Demonstration of Silicon Carbide Polishing," SSG Precision Optronics, September 2001.
38. **Wang, X.**, G. Godden, and S. Qui, "The EO-1 Advanced Land Imager (ALI) Scattered Light Study Report," October 1998.
39. **Willard, B. C.**, "Wide field-of-view Schmidt-sphere imaging collimator," SPIE Conference on Earth Observing Systems IV, Denver, Colorado, Proc. SPIE, Vol. 3750, pp. 286-296, July 1999.

1.4.2 Hyperion

1. **Barry, P.**, C. Segal, J. Pearlman, P. Jarecke, M. Folkman, N. Nelson, K. Yokoyama, J. Shepanski, S. Casement, and S. Carman, IEEE IGARSS, 2001, Hyperion Data Collection: Performance Assessment and Science Application.
2. **Barry, P.**, IEEE IGARSS, 2001, The Performance of the Satellite-borne Hyperion Hyperspectral VNIR-SWIR Imaging System for Mineral Mapping at Mount Fitton, South Australia.
3. **Barry, P.**, J. Shepanski and C. Segal, SPIE, 2001, Hyperion On-Orbit Validation of Spectral Calibration using Atmospheric Lines and an On-board System.
4. **Barry, P.**, J. Shepanski, and C. Segal, IEEE IGARSS, 2001, On-Orbit Spectral Calibration Verification of Hyperion.

5. **Barry, P.**, P. Jarecke and J. Pearlman, SPIE, 2001, Radiometric Calibration Validation of the Hyperion Instrument using Ground Truth at a Site in Lake Frome, Australia.
6. **Barry, P.**, P. Jarecke, and J. Pearlman, IEEE IGARRS, 2001, The Lake Frome Field Campaign in Support of Hyperion Instrument Calibration and Validation.
7. **Barry, P.**, P. Jarecke, and J. Pearlman, IEEE IGARRS, 2001, Use of the Lake Frome Ground Truth Campaign as a Cross-Calibration of the Hyperion Instrument.
8. **Carman, S.** and M. Malik, Risk Management, 2002, Risk e-Business: Enhancing a Successful Risk Management Process Online.
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11. **Jarecke, P.**, K. Yokoyama and P. Barry, IEEE IGARRS, 2001, On-Orbit Radiometric Calibration of the Hyperion Instrument.
12. **Jarecke, P.**, P. Barry and J. Pearlman, IEEE IGARRS, 2001, Aggregation of Hyperion Hyperspectral Spectral Bands into Landsat-7 ETM+ Spectral Bands.
13. **Jarecke, Peter** and Karen Yokoyama, SPIE, 2000, Radiometric Calibration of the Hyperion Imaging Spectrometer Instrument From Primary Standards to End-to-End Calibration.
14. **Jarekce, P.**, K. Yokoyama and P. Barry, SPIE, 2001, On-Orbit Solar Radiometric Calibration of the Hyperion Instrument.
15. **Nelson, N.** and P. Barry, IEEE IGARRS, 2001, Measurement of Hyperion MTF from On-Orbit Scenes.
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17. **Pearlman, J.**, IEEE IGARRS, 2001, Land Surface Geo/Biophysical Variable Estimation from EO-1 Data and Validation.
18. **Pearlman, J.**, P. Clancy, and C. Segal, IGARRS, 2001, The Coleambally Agricultural Component of Hyperion Instrument Validation.
19. **Pearlman, J.**, S. Carman, C. Segal, P. Jarecke, and P. Barry, IEEE IGARRS, 2001, Overview of the Hyperion Imaging Spectrometer for the NASA EO-1 Mission.
20. **Pearlman, Jay**, Carol Segal, Luchalan Liao, Steve Carman, and Mark Folkman, SPIE, 2000, Development and Operations of the EO-1 Hyperion Imaging Spectrometer.

1.4.3 LEISA Atmospheric Corrector (LAC)

1. **McCabe, George**, Dennis Reuter, David Rapchun, and Rumen Dimitrov, "The LEISA Atmospheric Corrector (LAC) on Earth Observer 1 (EO1)", HDF-EOS Workshop V, February 27-28, 2002, NASA/GSFC
2. **Reuter, D. C.**, G. H. McCabe, R. Dimitrov, S. M. Graham, D. E. Jennings, M. M. Matsumura, D. A. Rapchun and J. W. Travis, "The LEISA/ Atmospheric Corrector (LAC) on EO-1", IGARS Proceedings; IEEE 2001 International Geoscience and Remote Sensing Symposium, Volume 1, 46-48, July 9-13, 2001, Sydney, Australia.

1.4.4 X-Band Phased Array Antenna (XPAA)

1. **Huggins, R.W.**, P.T. Heisen, D.E. Miller, D.J. McMeen, and K.L Perko, "Phased Array Transmit Antenna for a Satellite," Proc. IEEE Antennas and Propagation Society, 1999. IEEE International Symposium 1999, Volume: 1, 1999.

2. **Kormanyos, B. K.**, R. W. Kruse, and D. R. Follensbee, "A High Efficiency MMIC Power Amplifier for Phased Array Antenna Applications," Proc. IEEE Radio and Wireless Conference, RAWCON, Colorado Springs, Colorado, August 9-12, 1998.
3. **Perko, K.**, L. Dod, and J. Demas, "Measurement of the Earth Observer-1 Satellite X-Band Phased Array," Paper A03-129, Antenna Measurement Techniques Association Annual Symposium, Irvine, CA, October 19-24, 2003.
4. **Rafferty, W.**, D. Rascoe, G. Fujikawa, and K. Perko, "Small Spacecraft Telecommunications for the New Millennium's Technology Validation Missions," AIAA Aerospace Sciences Meeting and Exhibit, 34th, Reno, NV, Paper 96-0700, January 15-18, 1996.

1.4.5 Wideband Advanced Recorder and Processor (WARP)

1. **Smith, T.** and J. Kessler, "EO-1 Wideband Advanced Recorder and Processor," GOMAC Conference, March 1999.
2. **Webb, E.**, M. Cunningham and T. Leath, "The WARP: Wideband Advanced Recorder Processor for the New Millennium Program EO-1," Proceedings of the IEEE Aerospace Conference, 1998.

1.4.6 Enhanced Formation Flying (GSFC Algorithm)

1. **Bauer, F.**, et al, "Enhanced Formation Flying Experiments For The New Millennium Program Earth Observing-1 (EO-1) Mission, - Challenging Technology Program Management," AIAA, May 1997.
2. **Bauer, F.**, et al, "Satellite Formation Flying Using An Innovative Autonomous Control System (AUTCON) Environment," Proceedings of the AIAA Guidance Navigation & Control, August 1997.
3. **Bristow, J.**, D. Folta, K. Hartman, and J. Leitner, "A Formation Flying Technology Vision," AIAA-2000-5194, February 2000.
4. **Carpenter, J.**, et al, "Integration Of Decentralized Linear-Quadratic-Gaussian Control Into GAFC'S Universal 3-D Autonomous Formation Flying Algorithm," AIAA Guidance Navigation & Control Conference, August 9-11, 1999, Portland, OR, AIAA-99-4269.
5. **Folta, D.**, et al, "A Universal 3-D Method for Controlling the Relative Motion of Multiple Spacecraft in Any Orbit," AIAA/AAS Astrodynamics Specialist Conference, August 10-12, 1998, Boston, MA, AIAA 98-4193.
6. **Folta, D.**, et al, "Results Of NASA'S First Autonomous Formation Flying Experiment: Earth Observing-1 (EO-1)," AIAA/AAS Astrodynamics Specialist Conference, Monterey, CA, August 2002.

1.4.7 Enhanced Formation Flying (JPL Algorithm)

1. **Folta, D.**, et al, "Foundations of formation flying for Mission to Planet Earth and New Millennium," AIAA/AAS Astrodynamics Specialists Conference, July 29-31, 1996.
2. **Guinn, J.R.** and R.J. Boain, "Autonomous Spacecraft Navigation for Earth Ground Track Repeat Orbits Using GPS," AAS/AIAA Space Flight Mechanics Meeting, Austin, TX, 12-15 February 1996
3. **Guinn, J.R.** and R.J. Boain, "Spacecraft Autonomous Navigation for Formation Flying Earth Orbiters Using GPS," AIAA/AAS Astrodynamics Specialists Conference, San Diego, CA, July 29-31, 1996.
4. **Guinn, J.R.**, "Autonomous Navigation Flight Demonstration Results for the New Millennium Program EO-1 Mission," AIAA 2002-4983, AIAA/AAS Astrodynamics Specialists Conference, Monterey, CA, August 5-8, 2002.

5. **Guinn, J.R.**, "Autonomous Navigation for the New Millennium Program Earth Orbiter 1 Mission," AIAA 97-3816, AIAA Guidance Navigation and Control Conference, New Orleans, LA, August 11-13, 1997.

1.4.8 Pulsed Plasma Thruster (PPT)

1. **Arrington, L.** and T. Haag, "Multi-Axis Thrust Measurements of the EO-1 Pulsed Plasma Thruster," AIAA Joint Propulsion Conference, AIAA 99-2290, June 1999.
2. **Benson, S.W.**, L.A. Arrington, and W.A. Hoskins, "Development of a PPT for the EO-1 Spacecraft," AIAA Joint Propulsion Conference, AIAA-99-2276, June 1999.
3. **Cassady, R.J.**, J.P. Morris, C.E. Vaughan, and M.J. Willey, "New Attitude Control Strategies Using Pulsed Plasma Thruster Systems," AAS 98-065, February 1998.
4. **Hoskins, W.A.**, M.J. Wilson, M.J. Willey, N.J. Meckel, M. Campbell, and S. Chung, "PPT Development Efforts at Primex Aerospace Company," AIAA 99-2291, June 1999.
5. **Meckel, N.J.**, R.J. Cassady, R.D. Osborne, W.A. Hoskins, and R.M. Myers, "Investigation of Pulsed Plasma Thrusters for Spacecraft Attitude Control," IEPC-97-128, Aug. 1997.
6. **Zakrzewski, C.**, Mitch Davis, and C. Sarmiento, "Addressing EO-1 Spacecraft Pulsed Plasma Thruster EMI Concerns," AIAA Joint Propulsion Conference, AIAA-2001-3641, July 2001.
7. **Zakrzewski, C.**, P. Sanneman, T. Hunt and K. Blackman, "Design of the EO-1 Pulsed Plasma Thruster Attitude Control Experiment," AIAA Joint Propulsion Conference, AIAA-2001-3637, July 2001
8. **Zakrzewski, C.**, S. Benson, A. Hoskins, and P. Sanneman, "On-Orbit Testing of the EO-1 Pulsed Plasma Thruster," AIAA Joint Propulsion Conference, July 2002.

1.4.9 Lightweight Flexible Solar Array (LFSA)

TBD

1.4.10 Carbon-Carbon Radiator (CCR)

1. **Kuhn, Jonathan**, Steve Benner, Dan Butler and Eric Silk, "Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator," Proceedings SPIE Conference, Vol. 3786, Optomechanical Engineering and Vibration Control, pp. 162-178, Sept. 1999.
2. **Teti, N.**, "Earth Observing-1 Technology Validation: Carbon-Carbon Radiator Panel," 33rd International Conference on Environmental Systems, SAE International, Vancouver, Canada, July 2003.

1.4.11 LA-II Thermal Coating

1. **Teti, N.**, "Earth Observing-1 Technology Validation: Low Absorptance Inorganic White Paint AZW/LA-II," 33rd International Conference on Environmental Systems, SAE International, Vancouver, Canada, July 2003.

1.5 Science

IEEE 2001 International Geoscience and Remote Sensing Symposium (IGARSS), Sydney, Australia July 9-14, 2001

1. **Barry P.**, Jarecke, P., Pearlman, J., Jupp, D., Lovell, J., and Campbell, S., “Use of the Lake Frome Ground Truth Campaign as a Cross-Calibration of the Hyperion Instrument”, IEEE 2001 International Geoscience and Remote Sensing Symposium (IGARSS), Sydney, Australia, July 9-14, 2001.
2. **Barry, P.**, Shepanski, J., and Segal, C., “On-Orbit Spectral Calibration Verification of Hyperion”, IEEE 2001 International Geoscience and Remote Sensing Symposium (IGARSS), Sydney, Australia, July 9-14, 2001.
3. **Biggar, S.F.**, Thome, K.J., Holmes, J.M., Kuester, M.A., and Schowengerdt, R.A., “In-Flight Radiometric and Spatial Calibration of EO-1 Optical Sensors”, IEEE 2001 International Geoscience and Remote Sensing Symposium (IGARSS), Sydney, Australia, July 9-14, 2001.
4. **Campbell, S.**, J. Lovell, D.L.B. Jupp, D. Graetz, P. Barry, P. Jarecke, and J. Pearlman, “The Lake Frome Field Campaign in Support of Hyperion Instrument Calibration and Validation,” Proceedings of International Geoscience and Remote Sensing Symposium (IGARSS 2001), Sydney, Australia, 2001.
5. **Coops N.**, M. Smith, M. Martin, S. Ollinger, A. Held, and S. Dury, “Assessing the performance of Hyperion in Relation to Eucalypt Biochemistry: Preliminary Project Design and Specifications,” Proceedings of International Geoscience and Remote Sensing Symposium (IGARSS 2001), Sydney, Australia, 2001.
6. **Cudahy, T.**, R. Hewson, J. Huntington, M. Quigley, and P. Barry, “The Performance of the Satellite-borne Hyperion Hyperspectral VNIR-SWIR Imaging System for Mineral Mapping at Mount Fitton, South Australia,” Proceedings of International Geoscience and Remote Sensing Symposium (IGARSS’01), Sydney, Australia, 2001.
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2. PRESENTATIONS

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2. "Earth Observing-1 – GSFC Engineering Colloquium," Goddard Space Flight Center, March 2001.
3. "New Millennium Program's First Earth Observing Mission (EO-1) – Mission Technology Forum," Greenbelt, Maryland, August 2001.
4. New Millennium Program's First Earth Observing Mission (EO-1) – EO1 Results," GSFC Systems Engineering Seminar, June 2002.

2.2 Sensor Web/Test-Bed Initiatives

1. **Chien, S.**, "Learning Space Exploration Agents: Opportunities and Challenges," Workshop on Machine Learning For Space Autonomy International Conference on Machine Learning, Washington, DC, August 2003
2. **Chien, S.**, et al, "Using timely satellite data to autonomously trigger science observations," Direct Broadcast Meeting, Kohala Coast, HI, November 2003.
3. **Chien, S.**, et al, "Validating the EO-1 Autonomous Science Agent," Invited Talk presented by B. Cichy at the Workshop on Safe Agents, Melbourne, Australia, July 2003.
4. **Mandl, Dan**, "Experimenting With Sensor Webs Using EO-1," ASPRS Annual Conference, Anchorage, AK, May 2003.
5. **Sherwood, R.**, "Autonomous Science on the EO-1 Mission," AM Constellation Workshop, Buenos Aires, Argentina, December 2003.
6. **Sherwood, R.**, "The EO-1 Autonomous Science Agent," Invited Presentation at the Agents School of the Americas, concurrent with the International Joint Conference on Artificial Intelligence, Acapulco, Mexico, August, 2003.

2.3 Spacecraft Bus

1. "New Millennium Program's First Earth Observing Mision (EO-1) – Mission Technology Forum," Greenbelt, Maryland, August 2001.

2.4 Technology

2.4.1 Advanced Land Imager (ALI)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.
2. “EO-1 Hyperion & Advanced Land Imager (ALI) Data Users Workshop, BWI Airport Marriott, Baltimore, MD, November 2001.

2.4.2 Hyperion

1. “EO-1 Hyperion & Advanced Land Imager (ALI) Data Users Workshop, BWI Airport Marriott, Baltimore, MD, November 2001.
2. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, MD, August 2001.
3. **Casey, S.**, “Hyperion Focal Plane Assembly Performance,” EO-1 SVT Meeting in Tucson, AZ, May 2001.
4. **Chrien, Thomas G.** and Robert O. Green, “Imaging Spectroscopy Methods, Applications and Future Directions,” ASPRS Annual Conference, Anchorage, AK, May 2003.
5. **JareckeP.** “Hyperion Radiometric Calibration” EO-1 SVT Meeting in Tucson, AZ, May 2001.
6. **Nelson, N.**, “Hyperion Image Quality,” EO-1 SVT Meeting in Tucson, AZ, May 2001.
7. **Segal C.**, “Hyperion On-orbit Performance Verification,” EO-1 SVT Meeting in Tucson, AZ, May 2001.
8. **Segal,C.**, “Hyperion Performance Verification and Beyond,” EO-1 SVT Meeting in Tucson, AZ, May 2001.
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2.4.3 LEISA Atmospheric Corrector (LAC)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.

2.4.4 X-Band Phased Array Antenna (XPAA)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.

2.4.5 Wideband Advanced Recorder and Processor (WARP)

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2.4.6 Enhanced Formation Flying (GSFC Algorithm)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.

2.4.7 Enhanced Formation Flying (JPL Algorithm)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.

2.4.8 Pulsed Plasma Thruster (PPT)

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2.4.9 Lightweight Flexible Solar Array (LFSA)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.

2.4.10 Carbon-Carbon Radiator (CCR)

1. “New Millennium Program’s First Earth Observing Mission (EO-1) – Mission Technology Forum,” Greenbelt, Maryland, August 2001.

2.4.11 LA-II Thermal Coating

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2.5 Science

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2. **Campbell, S.**, G. Byrne, D.L.B. Jupp, E.A. King, J. Lovell, R.D. Graetz , P.S. Barry, P. Jarecke, and J. Pearlman “The Lake Frome field campaign in support of Hyperion instrument calibration & Validation,” CSIRO EOC Annual Science Meeting, Canberra, 2001.
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5. **Coops, N.**, M. Smith, M. Martin, S. Ollinger, and A. Held, “Predicting Eucalypt Biochemistry From Hyperion and Hymap Imagery,” CSIRO EOC Annual Science Meeting, Canberra, 2002.
6. **Cudahy, T.J.**, P. Barry, A.P. Rodger, P. Mason, M. Quigley, M. Folkman, and J. Pearlman, “Assessment of the stability of the Hyperion SWIR module for hyperspectral mineral mapping using multi-date images from Mount Fitton, Australia,” CSIRO EOC Annual Science Meeting, Canberra, 2002.
7. **Cudahy, T.J.**, R. Hewson, J.F. Huntington, M.A. Quigley, and P.S. Barry, “The Performance of the Satellite borne Hyperion Hyperspectral VNIR-SWIR Imaging System for Mineral Mapping at Mount Fitton, South Australia,” CSIRO EOC Annual Science Meeting, Canberra, 2001.
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10. **Dekker, A.G.**, V.E. Brando, J. Anstee, N. Pinnel, and A. Held, "Preliminary assessment of the performance of Hyperion in coastal waters. Cal/Val activities in Moreton Bay, Queensland, Australia," CSIRO EOC Annual Science Meeting, Canberra, 2001.
11. **McVicar, T.** and T. Van Niel, "The Coleambally Agricultural Component of Hyperion Instrument Validation," CSIRO EOC Annual Science Meeting, Canberra, 2001.
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13. **Prata, F.**, G. Rutter, and D.L.B. Jupp, "Cal/Val Activities at the CIGSN Uardry Field Site, NSW, Australia in Support of the EO-1 Mission," CSIRO EOC Annual Science Meeting, Canberra, 2001.

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18. **Bote, R.**, EO-1 Operational Status and Constraints, EO-1 SVT Meeting in Tucson, AZ, May 2001.
19. **Crowley, J.**, Global Assessment of Volcanic Debris Flow Hazards from Space, EO-1 SVT Meeting in Tucson, AZ, May 2001.
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35. **Asner, Greg**, Desertification Analysis in Central Argentina using AVIRIS and EO-1 Hyperion, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
36. **Barry, Pamela**, Jay Pearlman, and Lawrence Ong, Hyperion Calibration and Instrument Intercomparisons, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
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40. **Cudahy, Thomas**, An additive SWIR instrument/ processing artifact observed in recent Hyperion data, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
41. **Cudahy, Thomas**, Mineral mapping at the Australian Mount Fitton and Panorama test sites, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
42. **Elmore, Andrew** and John F. Mustard, The precision and accuracy of EO-1 ALI data for ecological studies in semi-arid environments, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
43. **Flynn, Luke**, Observations of Volcanoes Using EO-1 Data, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
44. **Goetz, A.F.H.**, 2001, Atmospheric correction for Hyperion and results from two Argentine sites. EO-1 and SAC-C Science Validation Meeting, CONAE-NASA. November 6-7. Buenos Aires, Argentina.
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46. **Green, Robert**, Mike Eastwood, Ian McCubbin, Chris Chovit, Jim Raney, and Jack Holbrook, "Overview of AVIRIS Acquisitions in Argentina as Part of the NM EO-1 Campaign in 2001, (Jet Propulsion Lab, CA), EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
47. **Green, Robert**, Tom Chrien, and Betina Pavri, Hyperion On-Orbit Calibration Validation with AVIRIS in Argentina, Part A and Part B, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
48. **Held, Alex**, Summary of Australian Land and Vegetation - Based EO-1 Activities, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
49. **Helder, Dennis**, Preliminary On-orbit Radiometric Characterization of ALI, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
50. **Huete, Alfredo**, Gao Xiang, and Tomoaki Miura, Characterization of Land Degradation at the Nacunan Reserve in Argentina with AVIRIS and EO-1 Hyperion Data, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
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53. **Kruse, Fred**, Mineral Mapping Using AVIRIS and EO-1 Hyperion, Los Menucos Area, Argentina, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
54. **Kruse, Fred**, Tutorial: Computer Analysis of Hyperspectral Data, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
55. **Liang, Shunlin**, EO-1 validation and evaluation for agricultural monitoring: recent progress, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
56. **McGwire, Kenneth**, Application of Hyperion to Invasive Species, EO-1 and SAC-C Science Validation meeting, Buenos Aires, Nov. 2001.
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67. **Asner, Greg**, Analysis of EO-1 Hyperion Imagery for Desertification Research Applications in Argentina and EO-1 Hyperion vs. Landsat ETM+ for Selective Logging Research in the Amazon, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
68. **Biggar, Stuart**, Review of in-flight radiometric of ALI and Hyperion and spatial calibration of ALI, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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75. **Goetz, Alex**, Dynamic Flat-Field Correction of Hyperion Data Using Statistical Techniques, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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79. **Green, Robert**, Hyperion Cal/Val Comparisons (with ALI, AVIRIS, ETM+, MODIS, etc.), EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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82. **Jupp, David**, Outcomes from the EO-1 Collects at Australian Sites and their Analysis, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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92. **Mustard, John** and Andrew Elmore, Comparison of the Precision and Accuracy of ALI and ETM+ Data for Determination of Green Cover in Semi-Arid Systems, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
93. **Mustard, John**, Evaluation of ALI and Hyperion for Water Investigations, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.

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96. **Ramsey, III, Elijah**, Mapping the Invasive Species, Chinese Tallow, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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99. **Storey, Jim**, Landsat 7 Geometric Calibration and Performance, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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101. **Watters, Bob**, Global Assessment of Volcanic Debris Flow Hazards from Space--Results from Rock Strength Testing and Slope Stability Modeling, EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
102. **White, William** and Melba Crawford, "Evaluation of ALI Imagery through an Analysis of Land Cover / Land Use and Hurricane Impacts in Belize, Central America" and "Out of Africa plus other Stuff", EO-1 Science Validation Team Meeting, Greenbelt, Maryland, April 2002.
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131. **Miura, Tomoaki**, Inter-Calibration of Multi-Sensor Vegetation Indices for Ecosystem Variability Studies with EO-1 Hyperion, EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.
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133. **Ong, Lawrence**, Hyperion Flat Fielding with 90° Yaw Data, EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.
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- 136. **Root, Ralph**, Identification, Canopy Characterization, and Mapping of Invasive Leafy Spurge with the EO-1 Hyperion Orbital Imaging Spectrometer, EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.
- 137. **Smith, James**, “Canopy Modeling with EO-1,” EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.
- 138. **Smith, Marie-Louise**, Analysis of Hyperspectral Data for Estimation of Temperate Forest Canopy N Concentration: Comparision between an Airborne (AVIRIS) and a Spaceborne (Hyperion) Sensor, EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.
- 139. **Townsend, Phil**, Mapping Forest Composition, Structure and Biochemistry in the Appalachians Using Data from EO-1 Hyperion, Landsat and AVIRIS, EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.
- 140. **Ungar, Steve**, ALI and Hyperion Trending, EO-1 Science Validation Team Meeting, Hilo, Hawaii, Nov. 2002.

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- 141. **Asner, Gregory**, “EO-1 Hyperion for Studies in Arid and Tropical Ecosystems,” ASPRS Annual Conference, Anchorage, AK, May 2003.
- 142. **Beck, Richard A.**, “National Emergency Mapping Imaging Spectrometer Information System (NEMISIS) Prototype,” ASPRS Annual Conference, Anchorage, AK, May 2003.
- 143. **Chrien, Thomas G.** and Robert O. Green, “Imaging Spectroscopy Methods, Applications and Future Directions,” ASPRS Annual Conference, Anchorage, AK, May 2003.
- 144. **Gervin, Janette**, Robert W. Knox, Charles R. McClain, Forrest G. Hall, and Jaime Esper, “Spectral Considerations for the Measurement of Carbon in Visible and Near Infrared,” ASPRS Annual Conference, Anchorage, AK, May 2003.
- 145. **Pearlman, Jay**, David Goodenough and Andrew Dyk, “Forest Information Products from AVIRIS and Hyperion,” ASPRS Annual Conference, Anchorage, AK, May 2003.
- 146. **Roberts, D.A.** and P.E. Dennison, “Evaluation of the Potential of Hyperion for Fire Danger Assessment,” ASPRS Annual Conference, Anchorage, AK, May 2003.
- 147. **Ungar, Stephen**, “EO-1 Mission Status,” ASPRS Annual Conference, Anchorage, AK, May 2003.
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- 150. **Celarier, Edward A.** and Jay R. Herman, “Hyperspectral Compression for Earth Science Satellite-based Measurements,” Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.
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- 152. **Cook, Sid**, “Onboard HIS Compression Algorithms,” Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.

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155. **Rountree, Janet C.**, Brian N. Webb, and Michael W. Marcellin, "Compressing Hyperspectral Data with JPEG 2000," Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.
156. **Su, Jonathan K.**, Su May Hsu, and Michael K. Griffin, "Combined Spectral and Spatial Compression for HIS Applications," Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.
157. **Ungar, Steve**, "EO-1 Mission Overview," Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.
158. **Yeh, Pen-Shu**, "Onboard Science Data Compression: Technology Development and Status at GSFC," Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.
159. **Zhou, Yaping**, "Cloud Context-based Onboard Data Compression," Hyperspectral Data Compression Workshop, Goddard Space Flight Center, May 2003.

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161. **Boardman, W.**, R. Crabtree and D. Despain, 2002, Validation Hyperion in Yellowstone National Park Using AVIRIS HyMap and Field Spectra, 11th JPL Airborne Geoscience Workshop, Pasadena, CA.
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164. **Ong, Lawrence**, "Analysis of Hyperion Solar and Onboard Calibration Data and Insights into Yaw Effects," 2003 AVIRIS Workshop, Feb. 26, 2003.
165. **Ungar, Stephen**, "Lessons Learned and Where Do We Go Next?," 2003 AVIRIS Workshop, Feb. 26, 2003.
166. **Ungar, Stephen**, "Overview of the Hyperion Mission," 2003 AVIRIS Workshop, Feb. 26, 2003.

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173. **Asner, G.**, "Desertification using Hyperion and AVIRIS in Argentina," AM Constellation Workshop, Buenos Aires, December 3-5, 2003.
174. **Barón, J.**, "Hyperspectral Studies on Oil Fields in Argentina," AM Constellation Workshop, Buenos Aires, December 3-5, 2003.
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176. **Flynn, L.**, "A Summary of Volcano Observations with EO-1," AM Constellation Workshop, Buenos Aires, December 3-5, 2003.
177. **Goodenough, D.**, "Hyperspectral Monitoring of Forests," AM Constellation Workshop, Buenos Aires, December 3-5, 2003.
178. **Green, R.**, "On Orbit Calibration of the New Millennium EO-1 Hyperion Imaging Spectrometer," AM Constellation Workshop, Buenos Aires, December 3-5, 2003.
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2. "NASA's Earth Observing-1 to Play Key Role in Sensor Web Demo," Space News, May 6, 2003.
3. "Rising Above the Problem," The Technology Teacher, ITEA, November 2003.
4. "HYPERION: the first imaging spectrometer from space: also suitable for inland and coastal water observations," Dekker, A.G., V.E. Brando, N. Pinnel, and A. Held, Backscatter magazine (<http://www.waterobserver.org/backscatter/issue-02-winter.html>), 2002.
5. "Reinventing Time," The Technology Teacher, ITEA, April 2004.